

What Is Claimed Is:

1. A first fiber array half for retaining optical fibers, comprising:
  - a first chip having at least one groove formed in a top surface and extending longitudinally from a front face toward a back face, said chip having a bottom, said groove(s) being configured for receiving an individual optical fiber, respectively;
  - a first molded mount consisting of polymer material, said mount having top, and bottom portions, an open channel being formed through said top portion, said channel being configured to receive said chip for mounting therein; and
  - said chip being rigidly secured within said channel of said mount, wherein said channel is configured to provide exposure of the front face and top of said chip.
2. The fiber array of Claim 1, wherein the channel of said mount is longer than said chip, thereby providing a recessed area behind said chip.
3. The fiber array of Claim 1, wherein said chip is adhesively secured to said mount.
4. The fiber array of Claim 1, wherein said mount is molded to said chip.
5. The fiber array of Claim 1, wherein said chip and said mount are configured for providing a press fit and fictional securement therebetween.

1 6. The fiber array of Claim 1, wherein the top surface of said chip is lying in the same plane  
2 as the top portion of said mount.

1 7. The fiber array of Claim 1, wherein said polymer material is noncrystalline.

1 8. The fiber array of Claim 1, further including:

2 said chip having a re-entrant shape; and

3 said mount having its channel configured to conform to the re-entrant shape of  
4 said chip for snugly receiving and locking said chip into said channel.

1 9. The fiber array of Claim 8, wherein interior opposing corner portions of said chip, and of  
2 said mount, are configured to provide said re-entrant shape respectively.

1 10. The first fiber array half of Claim 1, further including a second half including:

2 a second chip; and

3 a second molded mount;

4 said second chip being rigidly secured in a channel of said second molded  
5 mount, a front face of said second chip being proximate a front portion of said second mount,  
6 the first array half and second array half being disposed with respective grooves facing each  
7 other.

1 11. The fiber array of Claim 10, further comprising adhesive for rigidly securing together the  
2 first array half to the second array half.

1 12. The fiber array of Claim 10, further including:  
2 means for locking said first and second mounts with first and second chips,  
3 respectively, together in a manner causing respective grooves to apply a compressive force  
4 against associated optical fibers retainer therebetween.

1 13. The fiber array of Claim 12, wherein said means for locking includes:  
2 a locking pawl protruding away from the top portion of like ends of each the of  
3 said first and second mounts, respectively; and  
4 a keyway formed into the top portion of opposite like ends of each one of said  
5 first and second mounts, said locking pawls and keyways being configured to interlock with  
6 one-another for retaining said first and second mounts securely together.

1 14. The fiber array of Claim 12, wherein said means for locking includes:  
2 said first mount configured to have first and second locking pawls protruding  
3 away from opposing ends of the top face thereof; and  
4 said second mount includes first and second L-shaped notches cut into its right  
5 and left side portions thereof, respectively;  
6 said first and second locking pawls of said first mount being configured for  
7 locking into said first and second L-shaped notches of said second mount, respectively, for

8 retaining said first and second mounts securely together.

1 15. The fiber array of Claim 12, wherein said locking means includes an ultrasonically  
2 welded joint in the polymer material.

1 16. The fiber array of Claim 1, further including:

2 said first silicon chip having a transverse slotway in a bottom face; and

3 said first mount being formed with a transverse stepped portion protruding  
4 away from a bottom of said channel, for mating with said transverse slotway of said first  
5 silicon chip.

1 17. The fiber array of Claim 1, further including:

2 vertical grooves formed at opposite ends of the front portion of said first  
3 mount, for providing control over the wicking of glue, and enhancing the bonding of glue.

1 18. The fiber array of Claim 1, wherein the front face of said first silicon chip extends from  
2 the front portion of said first molded mount for up to 100 micrometers.

1 19. The fiber array of Claim 1, further including:

2 a strain relief extending from said back portion of said first molded mount.

1 20. The fiber array of Claim 1, further including:

2 an open notch formed in said top portion of said first molded mount from said channel

3 through one side portion thereof, for receiving strengthening fibers of an associated optical  
4 fiber cable.

1 21. The fiber array of Claim 20, wherein said securement means consists of glue.

1 22. A fiber array for retaining optical fibers, comprising:

2 a first and second chips each having at least one groove formed in a top  
3 surface and extending longitudinally from a front face toward a back face, said chip having a  
4 bottom, said groove(s) being configured for receiving an individual optical fiber, respectively;  
5 and

6 first and second molded mounts each consisting of polymer material, said  
7 mounts each having top, and bottom portions, an open channel being formed through said top  
8 portion said channel being configured to receive said first chip for mounting therein;

9 said first chip being rigidly secured within said channel of said first molded  
10 mount, wherein said channel is configured to provide exposure of the front face and top of  
11 first said chip, thereby providing a first fiber array half;

12 said second chip being rigidly secured within the channel of said second  
13 molded mount, wherein the channel is configured to provide exposure of the front face and  
14 top of said second chip, thereby providing a second fiber array half;

15 said first fiber array half and said second fiber array half being disposed with  
16 respective grooves of one facing respective grooves of the other.

1 23. A fiber array for retaining optical fibers, comprising:

2 first and second chips each having at least one groove formed in a top surface  
3 and extending longitudinally from a front face toward a back face, said chips having a bottom,  
4 said groove(s) being configured for receiving an individual optical fiber, respectively;

5 first and second molded mounts each consisting of polymer material, said  
6 mounts each having top, and bottom portions, an open channel being formed through said top  
7 portions said channels being configured to receive said first and second chips for mounting  
8 therein, respectively;

9 said first chip being rigidly secured within said channel of said first molded  
10 mount, wherein said channel is configured to provide exposure of the front face and top of  
11 first said chip;

12 said second silicon chip being rigidly secured in the channel of said second molded  
13 mount, wherein said channel is configured to provide exposure of the front face and top of  
14 said second silicon chip; and

15 means for locking said first and second molded mounts with first and second chips,  
16 respectively, together in a manner causing respective opposing grooves to apply a  
17 compressive force against associated optical fibers retained therebetween.